

## REMARKS / ARGUMENTS

In complete response to the Final Office Action dated April 18, 2006, on the above identified application, reconsideration is respectfully requested. Claims 22-54 are pending in this application.

With this amendment, claim 52 is amended.

### Allowable Subject Matter:

The Applicants thank the Examiner for giving notice that claim 52 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Such amendments have been made.

### Claim Rejections Under 35 U.S.C. § 102:

Claims 22 – 33, 35 – 41, 43 – 51, and 53 - 54 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Miller et al. '673. Applicant respectfully submits that claims 22 – 33, 35 – 41, 43 – 51, and 53 - 54 are not anticipated by Miller et al. '673.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

With respect to independent claims 22, 32, 39, and 53 Miller et al. '673 does not disclose "each and every element as set forth in the claim." For example, with respect to claims 22 and 32, Miller et al. '673 does not disclose either "slowing the flow rate of said fluid by increasing the cross section of said stream" or "recovering the cooled fluid." Also, with respect to claims 39 and 53, Miller et al. '673 does not disclose either "at least one impact surface located inside said pipe" or "said mixing pipe has a cross-section larger than that of impact surface and said spraying means."

With respect to "slowing the flow rate of said fluid by increasing the cross section of said stream" (claims 22 and 32), Miller et al. '673 discloses a drum 2 that has "an outer diameter of 600 mm and a maximum wall thickness of 5 mm" (*column 4, lines 8 – 12*). Nested inside this drum, is an inner cylinder 12 which is "separated from the radially inner

surface of the drum 2 by a space 20 of approximately 100 mm" (*column 4, lines 22 – 28*). Thus, the interior area of inner cylinder 12 has a cross-sectional area of approximately 478,000 mm<sup>2</sup>, and the annular area between inner cylinder 12 and drum 2 is approximately 615,000 mm<sup>2</sup>. Therefore, in interior area where spray nozzle 17 admits the liquid nitrogen (*column 4, line 42*) the cross sectional area is actually reduced, which is in contrast to the element required by claims 22 and 32 of the instant invention. Thus Miller et al. '673 fails to disclose this element.

With respect to "recovering the cooled fluid" (claims 22 and 32), Miller et al. '673 discloses that the "radial fan 14 circulates air through space 20" (*column 4, line 38*). Miller et al. '673 does not disclose a system or apparatus in which the chilled air is recovered at all, merely recirculated. Thus Miller et al. '673 fails to disclose this element.

With respect to "at least one impact surface located inside said pipe" (claims 39 and 53), Miller et al. '673 discloses a recirculation system (*column 4, line 38*) that does not introduce air into the system. In contrast, the instant invention utilizes "a vertical pipe 5 for injecting air to be cooled into the cooling device" (*page 4, lines 15 and 16*), after which this air to be cooled is "directed toward an impact surface 10" (*page 4, lines 28 – 29*). Thus Miller et al. '673 fails to disclose this element.

With respect to "said mixing pipe has a cross-section larger than that of impact surface and said spraying means" (claims 39 and 53), Miller et al. '673 fails to disclose an impact surface (see discussion above). Thus Miller et al. '673 fails to disclose this element.

Accordingly, the rejection, as pertaining to these claims, is unsupported, and it is respectfully requested that this rejection be withdrawn. As claims 23-31, 33, 35-38, 40-41, 43-51, and 54 are dependent upon these claims, the rejection should be withdrawn as pertaining to these claims as well.


#### **Claim Rejections Under 35 U.S.C. § 103:**

Claims 34 and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller et al. '673. Applicant respectfully submits that claims 34 and 42 are not unpatentable over Miller et al. '673, for all the reasons discussed above.

## CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the Examiner believe a telephone call would expedite the prosecution of the application, he is invited to call the undersigned attorney at the number listed below.

Respectfully submitted,

  
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Date: **June 9, 2006**

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### CERTIFICATE OF MAILING UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 9<sup>th</sup> day of June, 2006.

  
Diana Guzman